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Comparision of Controlled Pressure Belt -Allowing Mobility- with Sandbags After Percutaneous Coronary Intervention: Pilot Study

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Aım: Investigation of the efficacy and safety of belt mechanism (anjiyobelt) that which we developed recently and have taken the patent of it, allows mobility after coronary operations, causes to apply adjustable pressure to the femoral artery
Methods: Between October 2012 and April 2013, 191 consecutive patients undergoing percutan coronary intervention electively or due to acute coronary syndrome were enrolled. There are 96 patients in sandbags group and 93 patients in anjiobelt group. Manual compression applied to the femoral artery until reaching to primary homeostasis. Then 4-5 kilograms of sandbags or anjiobelt placed. Mobilization was allowed in case of need in anjiobelt group. 24 hours after the procedure, bruises superficial femoral region and hematoma, pseudo-aneurysm, arteriovenous fistula complications of femoral artery with Doppler ultrasound were noted.
Results: Hematoma occurred more frequently in Sandbag group. Less than 1 cm hematoma developed in 52 patients with sandbags and in 25 patients with anjiobelt ($p<0.0001$). 1-5 cm sized hematoma also developed in 5 patients with sandbags and in 3 patients with anjiobelt ($p<0.0001$). Femoral artery pseudoaneurysm was seen in 4 patients. One of these two patients was used anjiobelt, other two patients was used sandbags ($p=0.975$).
Conclusion: Anjiyobelt significantly reduces the incidence of hematoma according to conventional sandbags in patients undergoing PCI. Other complications of femoral region in terms of efficiency and safety appears to be similar to the sand bags. The absolute immobilization of the main problems of these patients have been eliminated by anjiyobelt.

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The Effect of Tocotrienols Added to Canola Oil on Microalbuminuria, Inflammation and Nitrosative Stress in Patients With Type 2 Diabetes: A Randomized, Double-Blind, Placebo-Controlled Trial

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Objectıve: Tocotrienols (T3) were neglected in the past, today get attentions due to their antioxidant and none-antioxidant activity. The objective of this study was to evaluate the effects of the daily intake of 200 mg T3 added in canola oil over 8 weeks on microalbuminuria, inflammation and nitrosative stress in type 2 diabetic patients.
Methods: This study was a double-blinded, placebo-controlled, randomized trial. A total of 50 patients with T2DM and FBS >126 mg/dl treated by non-insulin hypoglycemic drugs were randomly assigned to receive either 15 ml T3 enriched canola oil (200mg/day T3) or pure canola oil for 8 weeks. Urine microalbumin, volume and Creatinine levels, Serum hs-CRP, and nitric oxide (NO) levels were measured before and after intervention.
Results: From 50 subjects participated in this study 44 completed the study. There were no significant differences in baseline characteristics, dietary intake and physical activity between groups. Urine microalbumin and serum hs-CRP were declined significantly in T3 treated group. At the end of the study, patients who treated with T3 had lower Urine microalbumin (11 (9, 25) vs. 22(15, 39.75) nmol/dl, $p=0.003$) and hs-CRP changes (-10/91±15/5vs. -9/88±27/5 Pg/ml, $p=0.048$) than control group. A non-significant decrease was also observed in serum NO level in T3 treated group with no changes in urine volume and creatinine levels.
Conclusıon: These findings indicate that T3 leads to ameliorate proteinuria and can protect the kidney against inflammation (hs-CRP) and nitrosative stress (NO).

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The Impact of Transcatheter Aortic Valve Implantation on Pulmonary Hypertension

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Background and AIM: Pulmonary hypertension (PH) commonly co-exists with severe aortic stenosis (AS). This co-existence increases operative mortality of the patients. The relationship between transcatheter aortic valve implantation (TAVI) and PH is not established in the literature. The aim of this study is to examine the feasibility of TAVI, which has been performed successfully to risky and inoperable patients in recent years, on the patients with PH and also the effect of TAVI on PH.
Methods-Results: Seventy patients were performed TAVI between July 2011 and December 2012. Of these 70 patients, 51 were female and 19 were male with a 77,6 years mean age. Before the operation, the patients were divided into three groups according to systolic pulmonary artery pressure (sPAP). The groups were determined as follows: group 1 sPAP < 40 mmHg, group 2 sPAP 40-59 mmHg, group 3 sPAP >60 mmHg. Seventy percent of the patients were in the group 2 and 3. After TAVI, sPAP of group 2 and 3 statistically decreased (group 2; 47,4±4,6 and 36,6±6,3 $p<0,0001$; group 3; 64,5±4,7 and 43,2±9,2 $p<0,001$, before and after TAVI respectively) and while this statistically significant decrease lasted for 6 months in group 2 (p:0,006), it lasted without being statistically significant (p:0,07) in group 3 after the first month (64,5±4,7 and 40,8±8,0 p:0.001). While the statistically significant difference between the sPAP of groups before the operation continued after the TAVI (p:<0,0001) and the first month following (p:0,02), no statistically significant difference was determined in the 6th month (p:0,06).
Conclusıon: With this study we have shown that treatment of aortic stenosis with TAVI; firstly it can be performed successfully and safely in the PH group with high sPAP, and secondly applying TAVI decreases sPAP significantly and that it is a constant decrease.

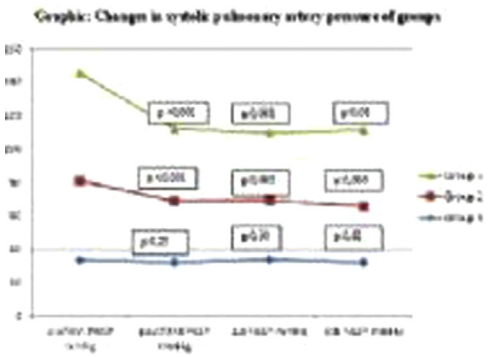

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Table 1: Basal characteristics and procedural features

Patient characteristics	all patients (70)	PAEP < 40 mmHg (21)	PAEP 40-59 mmHg (31)	PAEP > 60 mmHg (18)	p value
Male/Female (n)	19/51	7/14	9/22	3/15	0,48
Age(year)	57,6±6,7	55,3±5,5	58,5±4,7	58,2±9,9	0,16
BMI (kg/m2)	27,6±6,9	27,8±5,2	28,5±12,1	26,1±5,3	0,80
NYHA Class II (n)	7	3	2	2	
NYHA III (n)	47	13	23	11	0,81
NYHA IV (n)	16	5	6	5	
EF%	57,3±7,1	61,4±3,2	57,3±4,3	53,6±6,8	0,15
SURTAVI					
- low risk (n)	10	6	3	1	
- moderate risk (n)	18	7	6	5	0,09
- high risk (n)	42	8	22	12	
EuroScore (%)	21,7±12,9	18,8±10,8	19,5±11,3	28,5±17,3	0,02
Associated comorbid conditions					
Coronary Artery Disease (%)	67,1	66,7	74,1	55,5	0,55
Hypertension (%)	80,0	81,0	80,6	77,8	0,96
Diabetes Mellitus (%)	27,1	14,3	29,0	38,9	0,21
Hyperlipidemia (%)	45,7	33,3	53,4	50,0	0,28
Smoker (%)	17,1	23,8	16,1	5,5	0,24
COPD (%)					
- Mild	31,4	33,3	38,7	16,6	
- Moderate	40,0	47,6	32,2	44,4	0,37
- Severe	28,6	19,1	29,1	38,0	
Peripheral Arterial Disease (%)	41,4	42,9	48,3	27,7	0,36
Atrial fibrillation (%)	58,5	76,0	59,5	55,5	0,06
Echocardiographic variables					
Minimal Gradient (mmHg)	83,2±18,6	88,5±19,7	81,3±24,5	90,4±22,8	0,25
Average Gradient (mmHg)	52,8±13,3	54,1±14,3	50,1±13,3	55,6±15,7	0,33
AVA (cm^2)	0,63±0,17	0,67±0,18	0,66±0,14	0,52±0,15	**0,006**
LVEF (%)	54,5±14	54,1±14,0	54,9±13,9	54,2±13,2	0,86
Concomitant AR (n)					
Low	44	16	18	16	
Moderate	2	2	0	0	0,14
Severe	1	0	0	1	
Concomitant MR (n)					
Low	49	18	19	12	
Moderate	20	3	11	6	0,58
Severe	1	0	1	0	
Concomitant TR (n)					
Low		17	28	11	
Moderate		0	0	6	**<0,001**
Severe		0	0	1	
Peak systolic pulmonary artery pressure (mmHg)	46,2±12,6	33,3±8,0	47,4±4,6	64,5±4,7	**<0,001**
Procedural features					
Local anesthesia (n)	4	0	2	2	0,19
Femoral Login Form (%)					
- Vascular	82,8	81,0	83,8	88,9	0,56
- Surgical	17,2	19,0	16,1	11,1	
Valve diameter mm (n)					
- 23	44	12	19	13	
- 26	23	8	12	3	0,52
- 29	3	1	0	0	
Contrast used (ml)	209,3	210,6	198,7	227,2	0,22
Postprocedure, transfusion (%)	28,6	33,3	33,3	16,7	0,44
≥ 2 units of erythrocyte suspension (%)	17,9	19,1	16,7	18,7	0,52
Duration of discharge after	5,5±0,3	5,2±2,1	5,4±0,7	6,0±3,6	0,78

Table 2: Changes in systolic pulmonary artery pressure of the groups

Groups	sPAP mmHg before TAVI	sPAP mmHg after TAVI	1st month sPAP mmHg	6th month sPAP mmHg	p value
1; sPAP < 40 mmHg (21)	33,3±6,0	32,3±7,0	34,0±7,1	32,1±7,5	0,23
2; sPAP 40-59 mmHg (31)	47,4±4,6	36,6±6,3	35,2±6,5	33,8±6,6	**0,006**
3; sPAP > 60 mmHg (18)	64,5±4,7	43,2±9,2	40,6±8,9	45,6±17,8	0,07

sPAP: systolic pulmonary arterial pressure, TAVI: transcatheter aortic valve implantation

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Safety of Transesophageal Echocardiography-Guided Atrial Septostomy: Outcomes of the Largest series of TEE-guided Atrial Septostomy in Turkey

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Introduction: Atrial septostomy (AS) is a complex technique used during interventions such as; mitral balloon valvotomy, electrophysiological procedures, left atrial appendage closure and MitraClip. Cardiac perforation occurs in 1-5% of cases even in experienced hands. In daily practice, although AS is performed with the guidance of fluoroscopy, it is necessary to use transesophageal echocardiography (TEE) in some interventions (MitraClip, for some cases with mitral balloon valvotomy). Here, we present, to our knowledge, outcomes of the largest series of TEE-guided AS in our country.
Method: Our study included the results of 39 AS procedures (mean age 55.6±10.2) by TEE-guided. AS was performed for mitral balloon valvotomy in 17 patients and for MitraClip in 22 patients. Atrial septal puncture was only performed when tenting was confirmed in all of the bicaval, short axis aortic and 4 chamber views.
Results: While AS was successful in 37 (95%) of our patients, cardiac tamponade developed in one patient (%2). In this patient, the septum was rigid and the Mullin's sheath/needle combination was constantly directed towards the cranial region of the septum. After trying for a long period of time, cardiac tamponade developed, and pericardial fluid beginning from the right atrium and rapidly spreading to other regions was detected. In the meantime, the hemodynamics quickly worsened and the patient underwent immediate pericardiocentesis and was referred to surgery. In another patient, the septum was very thick (1.5 cm) and the Mullin's sheath/needle combination constantly slipped towards the cranial region of the septum during AS. In this patient, tenting was obtained only once with TEE. Since the level was as not appropriate for MitraClip procedure, puncture was not performed. In one of the cases where AS was performed successfully, a mobile thrombus attached to the atrial septum was detected after the removing of the catheter from the septum. Since the patient was high risk for surgery, he was treated with anticoagulants and on the 5th day after imaging the thrombus was resolved without any complications.
Conclusion: During the AS, cardiac perforation is more common particularly in patients with a large aortic root, in those with very large or unlikely very small atrium, in thoracic vertebral deformities, congenital heart diseases, massive pericardial effusions and in those with previously underwent ASD closure. Although there is not sufficient information in literature about TEE-guided AS, there are some reports that have mentioned the reduction of complications with the TEE-guided AS procedure. But, others have reported reductions only in the duration of fluoroscopy without the reduction of complications and an easier more specific region targeting method for AS. Our findings suggest that TEE-guided AS may reduce the need of fluoroscopy and the duration of AS, however, this method can not absolutely prevent cardiac tamponade.

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Assessment of Platelet to Lymphocyte Ratio to Predict Stent Thrombosis in Patients with ST Elevation Myocardial Infarction

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Aım: The invention and use of stents has made percutaneous coronary intervention (PCI) a safe, effective, and feasible revascularization method for the treatment of coronary artery disease. Stent thrombosis, a man made disease, is the Achilles tendon of PCI yet. The platelet to lymphocyte ratio (PLR) has been recently proposed as a marker showing the thrombotic and inflammatory state, mainly in cancer patients. Data regarding PLR and its association with adverse outcomes are lacking in patients with cardiovascular disease. Thus, the aim of this study was to assess the predictive value of pre-procedural PLR on development of stent thrombosis in patients undergoing coronary stent implantation for the treatment of acute ST elevation myocardial infarction (STEMI).